

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[016] The present invention relates to bath sponges, also referred to as puffs, and methods for their manufacture. Depicted in Figure 7 is one embodiment of a bath sponge 60 incorporating features of the present invention. The method of production is simple, quick, and easy, making it desirable for use in mass production. The novel bath sponge produced by the disclosed method has a unique look and feel and is highly durable relative to conventional bath sponges. The unique configuration also provides other advantages as disclosed or as are apparent herein.

[017] Referring now to Figure 1, an elongated tube 10, typically comprised of a flexible mesh netting material, is shown for use in production of bath sponge 60. Tube 10 has a boundary wall 12 with a substantially circular transverse cross-section. Boundary wall 12 has an interior surface 18 and an exterior surface 20 that each extend between an open first end 14 and an opposing open second end 16. Interior surface 18 bounds open space 22. Tube 10 typically has a length between about 1 foot to about 4 feet, with about 1 foot to about 2 feet being more preferred. Tube 10 also typically has a diameter between about 2 inches to about 4 inches, with about 2 inches to about 3 inches being more preferred. However, virtually any length and/or diameter of tubing can be used to practice the method of the present invention. The length and diameter of tube 10 will vary depending on the targeted user and the sought-after objectives.

[018] In one embodiment tube 10 is made from a flexible polymer and, more preferably, from a polymeric mesh netting, such as a low density or high density polyethylene diamond mesh netting. The polyethylene diamond mesh netting is typically extruded in the form of an elongated tube. It is to be understood, however,

that many variations of the tubing material and configuration are possible. For example, tube 10 can be extruded having a variety of alternative transverse cross section polygonal or irregular configurations. Furthermore, tube 10 can be formed from a variety of different polymeric materials having a variety of different colors and different physical properties such as texture. In yet other embodiments, it is appreciated that tube 10 can be comprised of other fabrics or materials that need not be polymeric or have a mesh configurations. Such materials can be sewn into the tubular configuration.

[019] Depicted in Figures 1 and 2, during manufacture tube 10 is first manipulated to a first folded position 23. Specifically, starting with first end 14, tube 10 is first folded inside-out over itself, as shown by arrows 15 in Figure 1, until ends 14 and 16 are substantially aligned, as shown in the cross-sectional view of Figure 2. In first folded position 23, tube 10 extends between an annular first fold 24 and substantially aligned ends 14 and 16.

[020] As depicted in Figure 3, tube 10 is next manipulated into a second folded position 26. Specifically, starting with aligned ends 14 and 16, tube 10 is again folded inside-out over itself, as shown by arrows 28 in Figure 2, until ends 14 and 16 are positioned a distance part way toward fold 24. In second folded position 26, tube 10 extends between annular first fold 24 and an opposing annular second fold 28. Ends 14 and 16 are disposed between folds 24 and 28.

[021] Depicted in Figure 4, tube 10 is next manipulated into a substantially doughnut shaped band 30. Specifically, starting with second fold 28, tube 10 is outwardly rolled onto itself repeatedly, as shown by arrows 32 in Figure 3, so that ends 14 and 16 are enclosed with band 30 and only first fold 24 is exposed. As shown in Figure 6, the resulting band 30 bounds a central opening 31. The above discussed

process results in free ends 14 and 16 of tube 10 being enclosed within band 30, thereby minimizing fraying or unraveling of band 30. Furthermore, band 30 has a substantially constant uniformly smooth exposed exterior surface.

[022] In alternative embodiments, it is appreciated that band 30 can be formed using a variety of alternative steps. For example, band 30 can be formed having one or both of ends 14 and 16 exposed. In one such embodiment, starting with either end 14 or 16, tube 10 is outwardly rolled onto itself to the opposing end without any folding. Alternatively, tube 10 can be rolled after one or three or more discrete folds. It is appreciated that countless variations on the folding technique are possible without departing from the spirit of the present invention. Furthermore, the one or more folds need not be outward but can also be inward within tube 10. In yet another embodiment, tube 10 need not be rolled at all but can simply be folded, using multiple folds, into a band or be otherwise gathered into a band.

[023] As depicted in Figure 4, once band 30 is formed, band 30 is stretched on a support structure 32. In one embodiment, support structure 32 comprises a base 34 having a pair of spaced apart posts 36 and 38 upwardly projecting therefrom. Band 30 is stretched over posts 36 and 38 so that band 30 encircles both posts 36 and 38 as shown in Figures 4-6. In alternative embodiments, support structure 32 can have a variety of alternative configurations. By way of example and not by limitation, support structure 32 can comprise 3 or more posts over which band 32 is stretched. In another embodiment, the support structure can include no posts. For example, band 30 can be stretched between opposing ends of a board so as to encircle the board. In yet another embodiment, support structure 32 can comprise a single large post having any desired circular or polygonal configuration over which band 30 is stretched. Finally, in one